

What is claimed is:

1. A method for synchronizing between a transmitter and a receiver in a communications system, the method comprising:

a transmission step of transmitting transmission data after inserting information about a reference time thereto at the transmitter end;

a clock comparison step of calculating, at the receiver end, a differential value between a count value of a decoder clock and the reference time of the transmission data; and

a clock adjustment step of adjusting a frequency of the decoder clock based on the differential value.

2. The synchronization method for the communications system according to claim 1, wherein

the clock comparison step calculates, at predetermined time intervals, the differential value between the count value of the decoder clock and the reference time, and a change amount thereof, and

the clock adjustment step adjusts the frequency of the decoder clock based on the change amount.

3. The synchronization method for the communications system according to claim 2, wherein the clock adjustment step determines, based on the change amount, whether or not the decoder clock is faster than an encoder clock at the transmitter end, and when determined as faster, reduces the frequency of the decoder clock.

4. The synchronization method for the communications system according to claim 3, wherein

the clock comparison step calculates the differential value between the count value of the decoder clock and the reference time by deducting the latter from the former, and the change amount, and

when the change amount is positive, the clock adjustment step determines the decoder clock as being faster.

5. The synchronization method for the communications system according to claim 2, wherein the clock adjustment step determines, based on the change amount, whether or not the decoder clock is slower than an encoder clock at the transmitter end, and when determined as slower, increases the frequency of the decoder clock.

6. The synchronization method for the communications system according to claim 5, wherein

the clock comparison step calculates the differential value between the count value of the decoder clock and the reference time by deducting the latter from the former, and the change amount, and

when the change amount is negative, the clock adjustment step determines the decoder clock as being slower.

7. A method for synchronizing between a transmitter and a receiver in a communications system, the method comprising:

a transmission step of transmitting transmission data

after inserting information about a reference time thereto at the transmitter end;

a clock comparison step of calculating, at the receiver end, a differential value between a count value of a decoder clock and the reference time of the transmission data; and

a clock adjustment step of adjusting a frequency of an encoder clock of the transmitter based on the differential value.

8. The synchronization method for the communications system according to claim 7, wherein

the clock comparison step calculates, at predetermined time intervals, the differential value between the count value of the decoder clock and the reference time, and a change amount thereof, and

the clock adjustment step adjusts the frequency of the encoder clock based on the change amount.

9. A communications system, comprising:

a transmitter for transmitting transmission data after encoding the same and inserting information about a reference time thereto; and

a receiver including:

decoder clock generation means for decoding the transmission data;

clock comparison means for counting the decoder clock, and calculating a differential value between a resulting count

value and the reference time; and

clock adjustment means for adjusting a frequency of the decoder clock based on the differential value.

10. The communications system according to claim 9, wherein

the clock comparison means calculates, at predetermined time intervals, the differential value between the count value of the decoder clock and the reference time, and a change amount thereof, and

the clock adjustment means adjusts the frequency of the decoder clock based on the change amount.

11. The communications system according to claim 10, wherein the clock adjustment means determines, based on the change amount, whether or not the decoder clock is faster than an encoder clock at the transmitter end, and when determined as faster, reduces the frequency of the decoder clock.

12. The communications system according to claim 11, wherein

the clock comparison means calculates the differential value between the count value of the decoder clock and the reference time by deducting the latter from the former, and the change amount, and

when the change amount is positive, the clock adjustment means determines the decoder clock as being faster.

13. The communications system according to claim 10,

wherein the clock adjustment means determines, based on the change amount, whether or not the decoder clock is slower than an encoder clock at the transmitter end, and when determined as slower, increases the frequency of the decoder clock.

14. The communications system according to claim 13, wherein

the clock comparison means calculates the differential value between the count value of the decoder clock and the reference time by deducting the latter from the former, and the change amount, and

when the change amount is negative, the clock adjustment means determines the decoder clock as being slower.

15. The communications system according to claim 9, wherein

the transmitter is configured to transmit the transmission data in real time after encoding the same, and

the receiver is configured to apply a decoding process to the transmission data in real time based on the decoder clock.

16. The communications system according to claim 15, wherein the transmission data is streaming data at least including video data or audio data.

17. The communications system according to claim 9, wherein

the transmitter is configured to transmit the encoded

transmission data after converting the same into a radio signal,  
and

the receiver is configured to demodulate the radio signal,  
and apply a decoding process to the transmission data.

18. A communications system, comprising  
a transmitter including:

encoder clock generation means for encoding transmission  
data;

transmission control means for transmitting the  
transmission data as a result of encoding based on an encoder  
clock after inserting information about a reference time  
thereto; and

clock adjustment means for adjusting a frequency of the  
encoder clock, and

a receiver including:

decoder clock generation means for decoding the  
transmission data; and

clock comparison means for counting the decoder clock,  
and calculating a differential value between a resulting count  
value and the reference time, wherein

based on the differential value, the clock adjustment  
means adjusts the frequency of the encoder clock.

19. The communications system according to claim 18,  
wherein

the clock comparison means calculates, at predetermined

time intervals, the differential value between the count value of the decoder clock and the reference time, and a change amount thereof, and

the clock adjustment means adjusts the frequency of the encoder clock based on the change amount.

20. A receiver for receiving encoded transmission data to which information about a reference time is inserted, and applying a decoding process thereto, the receiver comprising:

decoder clock generation means for decoding the transmission data;

clock comparison means for counting the decoder clock, and calculating a differential value between a resulting count value and the reference time; and

clock adjustment means for adjusting a frequency of the decoder clock based on the differential value.

21. The receiver according to claim 20, wherein

the clock comparison means calculates, at predetermined time intervals, the differential value between the count value of the decoder clock and the reference time, and a change amount thereof, and

the clock adjustment means adjusts the frequency of the decoder clock based on the change amount.

22. The receiver according to claim 21, wherein the clock adjustment means determines, based on the change amount, whether or not the decoder clock is faster than an encoder clock

at the transmitter end, and when determined as faster, reduces the frequency of the decoder clock.

23. The receiver according to claim 22, wherein the clock comparison means calculates the differential value between the count value of the decoder clock and the reference time by deducting the latter from the former, and the change amount, and

when the change amount is positive, the clock adjustment means determines the decoder clock as being faster.

24. The receiver according to claim 21, wherein the clock adjustment means determines, based on the change amount, whether or not the decoder clock is slower than an encoder clock at the transmitter end, and when determined as slower, increases the frequency of the decoder clock.

25. The receiver according to claim 24, wherein the clock comparison means calculates the differential value between the count value of the decoder clock and the reference time by deducting the latter from the former, and the change amount, and

when the change amount is negative, the clock adjustment means determines the decoder clock as being slower.